

Depressions and high pressure could easily describe the mood of companies affected by the weather. But it needn't be that way, explains Mick Hurrell

THE WEATHER BUSINESS

Apart from being this country's favourite topic of conversation at just about any time of year, the weather and its vagaries can have a dramatic effect on business – often to a far greater extent than most companies realise. It is estimated that inadequate intelligence on weather factors costs British business more than £1 billion each year in terms of effects on retail sales, under or over production, and untimely purchases of plant, equipment and raw materials.

In our home life we use basic weather information almost every day. But how many times have we reached the supermarket on a Saturday morning two or three days into a hot spell only to find it already sold out of picnic goodies? Yet at the corporate level, how many directors and marketing managers can honestly say that, when making plans or scheduling company advertising, they take any more than well-established seasonal factors into consideration?

Quantifying the weather-dependence of a business has probably never been more important than now, when increased competition and lower trading margins mean that every improvement in planning efficiency is a distinct commercial advantage.

The current business climate has ensured a notable commercial success for



Stray hurricanes have devastated parts of this country recently, and new weather records seem to be set every season, each with a direct knock-on

effect for many businesses. So it becomes essential to obtain accurate forecasts rather than simply rely on averages or past weather performance



the Met Office. In March, of its youngest business divisions - The Weather Initiative - celebrates its first anniversary. Established to draw together the organisation's forecasting expertise and offer a unique consultancy service to take weather intelligence into the boardrooms of British industry, it supplies both high quality short to long-term weather forecasts, together with detailed analysis and correlation of sales data and weather statistics.

From this information, business decisions on sales and demand forecasting, stock and distribution planning, promotional campaigns and cashflow control can be adapted to the weather variable.

The Met Office estimates that weather factors in the most obviously affected sectors of industry - energy, construction and agriculture - can account for between 10 and 20 per cent of turnover. But for transport and communication industries too, as much as 20 per cent of turnover is weather sensitive, while consumer manufacturing and retail and distribution sectors show a roughly seven per cent sensitivity. Even in minerals and metal manufacturing the figure is three per cent, and two per cent for professional services.

'I am very concerned at just how unaware senior managers are of the effect climate has on their businesses,' says Alan Douglas, managing director of The Weather Initiative. 'British industry and commerce have generally not taken this on board. Many feel that weather just "happens", and so question what can be done about it. Our role is to help business understand these quantitative links in far greater detail and thus to enable manufacturers or retailers to better organise themselves.'

Already, companies such as ICI, Shell, RHM and Sainsbury's are among the 150 or so clients to have taken advantage of TWI's services, from diverse sectors including manufacturing, retail, distribution, research and marketing.

'Yes, ice cream or soft drinks sales go up with the temperature,' says Douglas, 'but do they go up by three per cent for every degree rise in temperature, or three-and-a-half per cent? Does a temperature rise from 19C to 20C have the same effect on sales as a rise from 25C to 26C? Differences like that are critical at the distribution stage, for merchandising - even at the production stage.'

'And for after-sales analysis looking at promotional campaigns, comparing one region with another, how can you decide on its effectiveness without taking out the weather element?'

Relying on past performance or taking averages is often of little use. Last year started with violent storms in January and February, which caused widespread destruction and chaos. The generally warm winter was followed by the

warmest spring since 1945, giving rise to growth of flowers and blossom up to four weeks earlier than usual. Then sharp frosts in early April destroyed most of this premature growth.

Scotland recorded its wettest March since records began in 1896, while England and Wales had their driest spring since 1893. Early hopes of a blazing summer gave way to a disappointingly cool and wet June, but that was then followed by three months of exceptionally sunny and dry conditions - especially in the South.

Forewarned is forearmed. For the ice-cream seller or street trader, a glance at the next day's weather forecast will generally be enough to allow stocks to be tailored to meet expected demand.

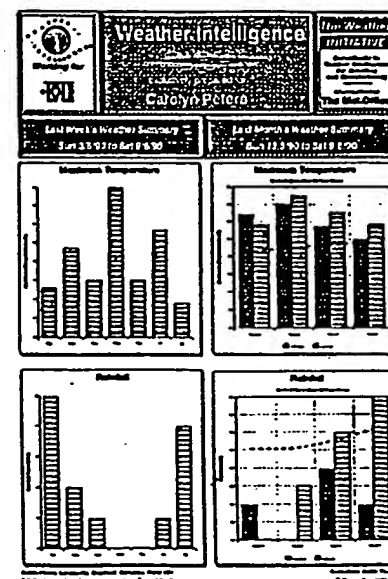
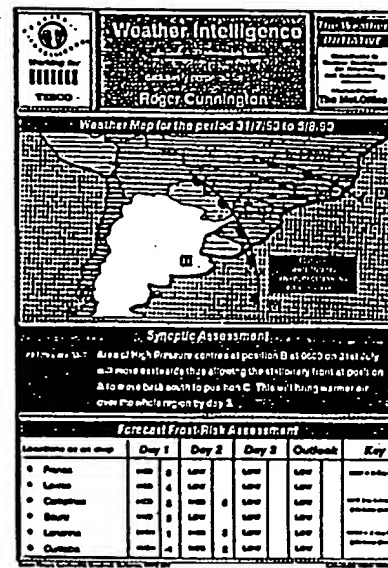
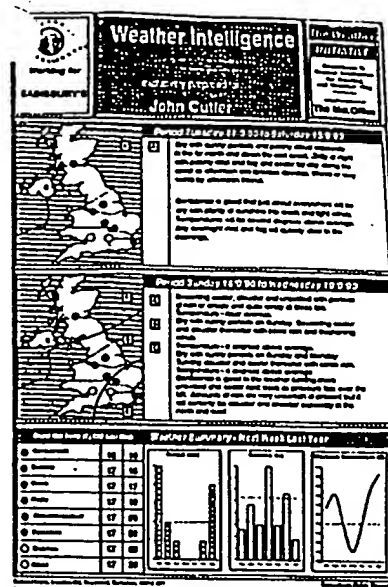
But each step along the retail, distribution and manufacturing chain becomes further removed from time of sale. While a supermarket's fresh food section may need to order a few days in advance, its suppliers may need two weeks to obtain and distribute goods. Brewers need to make a four to six week demand projection, and household appliance manufacturers can be peering into their crystal ball a full six months before their hardware will be in the high street.

For the retailer, TWI advice can range from how much fresh produce will be needed to satisfy demand over the weekend, to how frequently to change a window display and when exactly to start a seasonal sale. Among some of the startling correlations established for clients by TWI are the fact that 93 per cent of bread sales are directly related to temperature, that soft drinks sales really take off when the temperature exceeds 15C and are then predominantly affected by the number of sunshine hours. And one ghost can immediately be laid to rest: rainfall has a much less significant effect on sales than most people imagine.

Douglas is quick to point out that not all goods and services are affected directly by weather. But, he says, 'The correction of false hypotheses concerning the influence of weather on performance is an important area of investigation, too. One company was helped when it was shown that the weather was not responsible for the wide variation of recorded sales - analysis revealed that sales were dipping in response to increased advertising by this client's major competitors.'

The novelty of this new planning facility has meant many companies have

Obviously, when it rains umbrella sales will benefit. But both distributors and manufacturers need to forecast the boom times, and The Weather Initiative can produce forecasts tailored to a company's needs, or even translated into projected sales



been rather cautious initially. But, says Douglas, some weather influences are so dramatic that the cost-benefit ratios are extreme. One large liquified petroleum gas supplier made savings of more than £500,000 last winter by reducing its normal level of advance supply purchases to one more appropriate to the mild winter conditions predicted. And a major clothing retailer recovered all its consultancy costs with increased takings in just one morning after delaying its summer sale by a week.

This performance has helped build confidence and appreciation of weather correlations. One major brewer has begun a two year programme to re-organise its entire sales recording system so it can take full advantage of TWI analysis, and a supermarket chain now changes its daily order for certain fresh goods by a factor of as much as five, based purely on weather intelligence.

The service can offer importers world forecasts, so that a decision could be made, for example, to buy fresh fruit from Portugal rather than southern Italy to make sure that a crop of appropriate quality made it to the shops at the right time, or to identify when might be the best time to buy coffee from Brazil.

For distributors, TWI jointly developed a new service with Datasolve – a division of Thorn-EMI. Software – which combines the MURCO stock forecasting and inventory management software with weather intelligence. The MURCO service can now provide companies with automatic on-line adjustments to their stock forecasts for short-term weather forecasts.

A whole range of meteorological factors influence manufacturing too. Of course, long-term forecasting can help with decisions on capital investment in new plant and machinery; and weather-sensitive scheduled plant maintenance down-time can prove highly inefficient if its timing is decided independently of forecast predictions.

Certain weather characteristics can be important for the safe and efficient running of plant – not merely major elements like rain, wind or ice, but other more subtle variables such as atmospheric pressure changes, which will affect the storage of chemicals, and atmospheric humidity, which could alter the management of expensive dehumidifying equipment.

To the public at large, the equating of a basic diet of daily weather forecasts presented by the media with highly detailed business forecasting might stretch the imagination. But as ever in this life, you get what you pay for. For the great majority of companies, the daily radio, television or newspaper weather offerings are of minimal commercial use. The longest range forecasting anyone gets free is the seven day one provided



The Met Office is a key member in a world-wide exchange network for weather information, and offers some of the most accurate services available anywhere. With this organisation behind it, The Weather Initiative has its sights on an international market, with enquiries from as far afield as Japan and New Zealand.

for the farming community. But Britain gets so much weather. It changes hour by hour and can vary dramatically between locations just a few miles apart. To have business value, something much more detailed is needed.

The Met Office is a key member of the World Meteorological Organisation – a global exchange network for satellite, air and ground based weather information – and is acknowledged as offering some of the most advanced and accurate weather services available anywhere in the world.

Detailed day-by-day global forecast programmes are available 10 days in advance, together with 30 day UK forecasts, updated every 10 days. The Met Office claims a 90 per cent plus confidence that actual temperatures will be within two degrees of those predicted 24 to 36 hours in advance. The 16 to 30

provided, but should the client wish they can be translated directly into projected sales or production schedules! 'The cost of a year's service can often be recovered on one correct forecast of atypical conditions,' says Douglas.

For about £400 per month TWI will provide a weekly information service for a geographical region, while £10,000 secures a year's 10 day forecasting service updated twice weekly. A similar fee will buy a correlation study for one product nationwide. All can be accessed through the Met Office's 13 regional centres.

Development of TWI came at a time when the Met Office was about to be transformed into a part-government funded agency, with new responsibility to generate revenue through offering commercial consultancy services. Until then, meteorological data for forecasting and analysis had been quite jealously guarded. Demand for the service quickly reached a level where TWI appointed its first agency – Weatherwise, based at Stirling University.

Weatherwise is free to work for clients anywhere in the UK and will devote much effort to developing the Scottish market. It pays a royalty for detailed information from the Met Office, and in return receives a royalty for every forecasting agreement it secures with industry. Established six months ago, Weatherwise has already secured contracts from a number of major clients, including a division of ICI.

In Bracknell, The Weather Initiative has its sights set on an international market – probably through joint marketing ventures. It has already worked for British companies operating in the United States and Asia, for European companies on the continent, and has even had enquiries from New Zealand and Japan. Alan Douglas' ambitious plans include quadrupling turnover within three years.

To say that every cloud has a silver lining might be an overstatement, but he can keep a straight face when he says: 'The sky's the limit.'

'The cost of a year's service from The Weather Initiative can often be recovered on one correct forecast of atypical conditions'

day forecast has a 60 per cent chance of being useful. Even at 30 days, statistics show a 20 per cent gain over predictions from weather records.

But don't be put off by thoughts of pages of incomprehensible weather maps to wade through. Alan Douglas explains: 'Presentation of the forecast information is always specifically tailored to the client's style, content and delivery requirements.'

So not only can detailed information on expected temperatures, sunshine, rain and a whole host of other variables for individual towns or regions be

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PRODUCT NAME: IMREX Demand Forecasting System (016166)

IMREX Computer Systems Inc
307 E Shore Rd
Great Neck, NY 11023
(800) 874-1020

CONTACT: Drew Mktg. Mgr., Valerie

The IMREX Demand Forecasting System creates and updates forecast models developed from historical, seasonal, current and user-defined data. Features include: (1) regression analysis; (2) seasonal indexes; (3) trend analysis; (4) exponential smoothing; (5) forecasting at product line or item level; (6) mean absolute deviation calculation of each forecast; (7) disaggregation of forecast to item number/product group/warehouse and customer levels; (8) automatic time-phased consumption of forecast; (9) regular and promotional forecasts; and (10) total integration with the IMREX Distribution Resource Planning, Manufacturing, Order Entry & Invoicing and Inventory Management applications.

DESCRIPTORS: Forecasting; Models; Business Modeling

HARDWARE: IBM AS/400 & Compatibles

OPERATING SYSTEM: CPF; OS/400

PROGRAM LANGUAGES: RPG/400

TYPE OF PRODUCT: Mainframe

POTENTIAL USERS: Automotive/Aviation Aftermarket, Pharmaceuticals, Steel/Metals, Cosmetic and Fragrance, Plumbing/Electrical, Paper, Glass, Computers and Electronics, Food Products, Public Warehouses

DATE OF RELEASE: 1984

PRICE/TERMS: Available upon request

DOCUMENTATION AVAILABLE: User manuals; training manuals; source code

TRAINING AVAILABLE: Training available; toll-free telephone support 8:30 am - 5:30 pm EST

SERVICES AVAILABLE: Consulting; custom programming; systems design and analysis; communications

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